

REMARKS/ARGUMENTS

This reply is submitted in response to the Office Action dated May 8, 2006.

Claims 1-15 and 17-170 are pending.

Claims 1-5, 7-15, 17, 66-70, 73, 75-107, 110-112, 114-115, 119-120, 147-152, 154-155, and 157-160 are withdrawn.

Claims 6, 18-65, 71-72, 74, 108-109, 157-160, and 162-163 are rejected.

Claim 79 is amended.

Applicant thanks Examiner Nutter for taking the time to interview this case.

Information Disclosure Statement

The attached IDS 1449 form includes copies of the references that the Office indicated were incomplete in the interview given by Examiner Nutter. A copy of the previously submitted references that were indicated to be properly submitted in the interview has not been enclosed as these references have already been received by the Office. Further, a copy of these references have previously been received by the Office in the prosecution of 2002B107B (USSN: 10/640,435), filed August 12, 2003. This application is a continuation-in-part of 2002B107B. As such, it is not necessary to re-submit another copy of these references.

Rejoinder under MPEP §821.04

As discussed in the interview, Applicant requests that the pending withdrawn claims be rejoined should the application be otherwise in condition for allowance.

Rejections under 35 USC § 103(a)

Claims 6, 18-65, 71-72, 74, 108-109, 157-160, and 162-163 stand rejected under 35 USC § 103(a) as obvious over Aboshi et al. (US 4,041,002) taken with Kim et al (US 4,912,148), Itoh et al. (US 2002/0183429) and Girotti et al. (US 3,957,898).

Applicant's claimed invention relates to fibers and non-wovens comprising blends of one or more polyolefins with one or more non-functionalized plasticizer's (NFP's), where the NFP's have specific characteristics. For example independent claim 6 requires the NFP to have a Kinematic viscosity of 10 cSt or more at 100 °C, a specific gravity of from 0.700 to 0.860, and a

Viscosity Index (VI) of 120 or more.

These specific characteristics lead to improved product properties in fibers and non-wovens, among other things. For example, for many of Applicant's embodiments (for example those falling within claims 6, 18, 19, 20, et seq.), VI is an important parameter. Viscosity Index is a measure (developed by the engine lubricant industry) of the practical implications of the molecular structure of a liquid. VI is determined by plotting viscosity versus temperature for a particular liquid. A higher VI indicates that the structure and or properties of a liquid are such that temperature has less effect on viscosity versus a fluid with a lower VI. Most liquids get thinner (less viscous) when heated and thicker (more viscous) when cooled. A high VI liquid will have less variance in product properties over a broad temperature range as compared to a low VI liquid. A high VI is desirable in engine lubrication end uses because engine lubricants are required to be easy flowing at low temperature (to allow the oil to be pumped around a cold engine) and stay thick at higher temperatures (to continue protecting the engine from wear at the high under hood temperatures). As one example of why a high VI (100 or more, preferably 120 or more) is useful in Applicant's claimed invention please consider fibers and non-wovens to be used in cold environments, such as operating rooms which are kept at temperatures as low as 50 °F or house wrap which is exposed to winter cold. In these situations normal mineral oils typically thicken, and therefore then to lose whatever plasticizer effect they had (or worse they crystallize and become brittle). This leads to stiff fibers at best and brittle ones at worst. Applicant's compositions however do not thicken as much at low temperatures because the liquid has a high VI and thus the fibers and non-wovens retain their flex and softness. Note that none of the references cited by the Examiner herein disclose or suggest that this VI parameter is important and that this specific subset of fluids should be selected for fiber and non-woven use. In addition, the Office has cited quite a few paraffin process oils in the prior art. Given that a typical paraffin process oil has a significant naphthenic and aromatic content, these process oils will not have high VI. Typical paraffinic process oils will not have a VI greater than 120.

Aboshi

The Office suggests that Aboshi teaches the conventionality of producing a resin composition of a polyethylene and a lubricant. The Office asserts that the type of paraffin

disclosed in Aboshi would fall within the claimed scope. However, this assertion is not supported. Aboshi does not teach or suggest the use of paraffins having a Kinematic viscosity of 10 cSt or more at 100 °C, a specific gravity of from 0.700 to 0.860, and a viscosity index of 120 or more. In fact, Aboshi does not disclose any specific paraffin type oils. The only information that is provided in the examples is that a paraffin type oil having a Saybolt Universal Second of 460 at 100°F is used. This does not provide enough information to calculate either the specific gravity or the viscosity index, nor does it suggest that the claimed properties would be present. Likewise, nothing in Aboshi suggests that these properties are important. A typical paraffin process oil will not have the claimed properties. The only stated goal in Aboshi is to improve lubricity and wear resistance without sacrificing the inherent moldability of thermoplastic resins. Therefore, there would be no motivation to use paraffins having the claimed properties even if Aboshi is combined with another reference. Applicant respectfully notes that nothing within the Aboshi's disclosed thermoplastic elastomer discloses or suggests Applicant's specific NFP's to produce fibers and non-wovens.

Kim

The Office asserts that Kim shows a blend of either a polyethylene or polybutene with a process paraffin oil having overlapping physical properties with the claimed invention. However, the specification in Kim specifically prefers that "the oil has a specific gravity of 0.87 to 1.02" which falls entirely outside the scope of the rejected claims. Specific oils are not disclosed except for the two oils that are used in the examples; naphthenic process oil (Han IL Oil Refinery Co., Ltd., N Grade) and paraffinic process oil (Han IL Oil Refinery Co., Ltd., P Grade). However, given that Kim specifically prefers oils having a specific gravity of 0.87 to 1.02, it is clear that these oils would fall outside the claimed scope. Further, typical paraffin process oils will not have a VI in excess of 120 or more. Again, Applicant respectfully notes that nothing within Kim's thermoplastic elastomer discloses or suggests Applicant's specific NFP's to produce fibers and non-wovens.

Itoh

The Office asserts that Itoh discloses an olefinic resin with a softening agent that may

include a paraffin oil. While the Office suggests that Itoh discloses properties which overlap with the claimed invention, Itoh does not show any paraffin oils having a Kinematic viscosity of 10 cSt or more at 100 °C, a specific gravity of from 0.700 to 0.860, and a viscosity index of 120 or more. Itoh discloses two specific oils that are used in the examples; Diana Process Oil PW-380 and PS-430. As discussed in the previously submitted response, Diana Process Oil PW-380 does not have a VI in excess of 120 or more. The calculated VI for Diana Process Oil PW-380 is 110.3. In addition, PS-430 is still a typical paraffinic process oil and does not have a specific gravity from 0.700 to 0.86 nor a VI in excess of 120. Furthermore, nothing within Itoh discloses or suggests any other fluid; much less Applicant's particular NFP's having certain KV₁₀₀'s, VI's, specific gravities, and or cyclic contents, etc. to produce fibers and non-wovens. Thus, Applicant respectfully requests that the rejection under 35 USC § 103(a) be withdrawn.

Girotti

Girotti discloses the process of producing synthetic lubricating oils. Girotti does not teach or suggest combining these synthetic lubricating oils with polyolefins to produce fibers or non-wovens. Because Girotti lacks the claimed element of a fiber comprising a plasticized polyolefin, Girotti can not be used as a 35 USC § 103(a) reference alone. Further, Applicant has never suggested that they were the first to invent synthetic lubricating oils; examples of existing oils are found throughout Applicant's specification. However, it is the claimed combinations of specific types of NFP's and polyolefins which produce the claimed invention. Neither Girotti, Kim, Aboshi, nor Itoh teach or suggest Applicant's specific NFP's for use in fibers and non-wovens. Because the claimed combination is neither taught nor suggested by the cited prior art, Applicant respectfully submits that the claims are in condition for allowance and respectfully requests notice of such.

CONCLUSION

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Reconsideration and allowance is respectfully requested. Applicant invites the Examiner to telephone the undersigned attorney if there are any issues outstanding which have not been presented to the Examiner's satisfaction.

The Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account number 05-1712. Moreover, if the deposit account contains insufficient funds, the Commissioner is hereby invited to contact Applicants' undersigned representative to arrange payment.

Respectfully submitted,

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